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SOME MISAPPREHENSIONS AS TO THE
SIMPLIFIED NOMENCLATURE
OF ANATOMY.*

LET it not be interpreted as indifference to the honor of election to an office held by the lamented Joseph Leidy and Harrison Allen if I express even more profound gratification in another action of this Association at its meeting a year ago, viz., the adoption, without dissent, by such of the members as were sufficiently interested to attend, of the 'Report of the Majority† of the Committee on Anatomical Nomenclature' (*Proceedings*, pp. 27-55).

It was then my hope and expectation to lay aside that matter for a year in favor of others already too long deferred. Least of all did I contemplate making it the subject of the present address. The change of plan is due to considerations which may be summarized thus: As investigators our main purpose is to comprehend; as writers and teachers our first duty is to be clear; when, therefore, we have reason to believe that in the minds of our fellows there is obscurity upon a subject of common interest to which we have given particular attention we should avail ourselves of any special opportunity of elucidation, the imperativeness of this obligation being directly proportionate to the personal, professional and official importance of those who seem to need enlightenment.

When, therefore, it is announced that at this meeting the Association will be called upon, in respect to nomenclature, to 'reconsider its acts from the beginning' ('Minority Report,' p. 57); when those who make this announcement are among the original members of the Association and its only surviving past Presidents; when, upon both sides of the water, there have

been published reports, articles, reviews and paragraphs in books* containing, however unintentionally, statements so inadequate, exaggerated, or even inaccurate, as to mislead those not themselves acquainted with the facts; and when, finally, it is probable that the facts are more familiar to me than to any other single individual, it becomes not merely my privilege, but my duty, to share my information with the members of this Association and with others interested who may have lacked the time or opportunity to gain it hitherto.

So numerous are the misapprehensions as to the nature of the simplified nomenclature and the purposes of its advocates that it is impossible to consider them all fully upon the present occasion; some, indeed, will be merely stated in the hope that such

* 1. Verhandlungen der anatomischen Gesellschaft auf der neunten Versammlung, in Basel, April, 1895. *Anat. Anzeiger*; Ergänzungsheft zum X. Band; p. 162.

2. His, W.—Die anatomische Nomenclatur. Nomina anatomica. Verzeichniss der von der Anatomischen Gesellschaft auf ihrer IX. Versammlung in Basel angenommenen Namen. Eingeleitet und im Einverständniss mit dem Redactionsausschuss erläutert. *Archiv für Anatomie und Physiologie*. Anat. Abth., Supplement Band, 1895. O., pp. 180; 27 figs., 2 plates, 1895; [pp. 6-7].

3. Herr Burt Wilder und die Anatomische Nomenclatur. *Anat. Anzeiger*, XII., 446-448, Oct. 30, 1896.

4. Kölliker, A. von.—Handbuch der Gewebelehre des Menschen. Sechste Auflage. Zweiter Band. Nervensystem des Menschen und der Thiere. O., pp. 874, 845 figs. *Leipzig*, 1896; [p. 814].

5. Dwight, Thomas.—Wilder's System der Nomenclatur. *Ergebnisse der Anatomie und Entwicklungsgeschichte*, 1897, pp. 471-479.

6. Baker, Frank.—Review of the foregoing. *SCIENCE*, VII., 715-716, May 28, 1898.

7. Baker, F., and Dwight, T.—Report of the Minority of the Committee on Anatomical Nomenclature. *Proceedings of the tenth annual session of the Association of American Anatomists*, December 28, 1897, pp. 55-57.

8. Reviews of Mills, 'The Nervous System and its Diseases,' in various medical journals; 1898.

* Address of the President at the opening of the eleventh annual session of the Association of American Anatomists, December 28, 1898.

† F. H. Gerrish, Geo. S. Huntington and myself.

statements may carry their own correction. Certain points were presented two years ago.* If, in a few instances, I repeat what I have previously published, precedent for so doing may be found in these words of Huxley :

"When objections are ignored without being refuted or even discussed, I suppose the best way is to emphasize them afresh." *Zool. Soc. Proceedings*, 1883, p. 139.

Misapprehension I.† That the 'Majority Report' embodies the positive convictions of one member and the merely passive acquiescence of the other two.—Such an impression not only might be, but actually has been, produced by the 'Minority Report.' Nothing could be less accurate or just.

The members of this Association need only be reminded that the two other signers of the 'Majority Report' are among the more active of our associates; that they are writers, and are, or have been, practi-

tioners; and that they are teachers of anatomy in long-established medical schools.

But even more significant in this connection is something best known to those who know them best. These men, in a notable degree, combine intellectual independence with liberality; in other words, they are conspicuously free from two qualities shared by the human species with certain other mammals, *viz.*, uncritical imitation, on the one hand, and, on the other, hostility toward what appears to be new merely because they are personally unfamiliar with it.

With regard to the matter in question, as was expressly stated in the 'Majority Report' (p. 31, § 2, 5), "with few exceptions the terms recommended had been adopted by each member individually, and prior to the conference at which joint action was taken."*

Notwithstanding the nature of their convictions, if the larger number of those in attendance at the present session decide to materially modify or even reverse the action of a year ago, the majority of your committee will offer no factious opposition.† They will, however, feel none the less proud of their work and confident of its eventual readoption. Their sentiments may be compared, although somewhat remotely, with those of the surgeon who had devised a new flap for amputation of the thigh. Upon the first trial, just as the operation was triumphantly completed, an overdose of chloroform killed the patient. "Too bad," said the surgeon, "but at any rate he'll go to heaven with the best flap that ever was made."

* For the complete appreciation of the situation it should perhaps be added that the two other signers of the 'Majority Report' were appointed on the Committee respectively by the two signers of the 'Minority Report' while serving as Presidents.

† At the closing session (December 30, 1898) of the eleventh meeting the second Report of the Majority of the Committee was adopted by the Association.

* Neural Terms, International and National, *Journal of Comparative Neurology*, VI., December, 1896, pp. 216-352, including seven tables. Parts VII.-IX. have also been reprinted under the title 'Table of Neural Terms, with Comments and Bibliography,' including also 'Suggestions to American Anatomists.' Copies of the entire paper and also of the 'Tables,' etc., were sent to all members of all committees on nomenclature, here and abroad, and to many other anatomists and neurologists. To them were also sent copies of the 'Table,' etc., and the latter was still more widely distributed to others more or less directly interested in the subject. My reprints of the entire paper are exhausted; of the 'Table,' etc., some copies remain that will be sent upon application. The larger part of the paper is contained in the lecture 'Some Neural Terms,' in 'Biological Lectures' [at the Marine Biological Laboratory] for 1896-7. The 'Errors and Omissions' detected in my Lists of Neural Terms have been corrected in the *Journal of Comparative Neurology*, VIII., pp. li-lii, July, 1898; a leaflet reprint has been inserted in copies of 'Neural Terms' and of 'Table of Neural Terms' distributed since March 30, 1898, and will be sent upon request to those who received copies prior to that date.

† The succeeding misapprehensions will be designated simply by Roman numerals.

II. *That any action of the Association with respect to the use of terms has binding force.*—From certain expressions it might be inferred that the adoption of a report on nomenclature was tantamount to the enactment of rules or by-laws, conformity to which constitutes an indispensable condition of the maintenance of membership. On the contrary, the recommendation and acceptance of certain terms merely entitles them to particularly respectful consideration and throws upon those who prefer others the burden of proof that those others are superior. As an illustration of the impunity with which somewhat stringent injunctions may be disregarded may be mentioned the following: In the *Anatomischer Anzeiger* (March 3, 1897, pp. 323–329), in a paper by Dr. Edward Flatau, 'Beitrag zur technischen Bearbeitung des Centralnervensystems,' prepared in the Anatomic Institute at Berlin, the Director of which is Professor Waldeyer, a member of the B. N. A. Commission and of the Gesellschaft that recommended *Dura mater encephali* and *Pia mater encephali*, the mononyms *dura* and *pia* occur two and four times respectively, and the authorized polyonyms are conspicuous by their absence.

III. *That action of the majority of a committee should be delayed indefinitely by the absence or unpreparedness of the minority after due notice is given.*

IV. *That the condemnatory phrases of the 'Minority Report' can, in any considerable degree, be justly applied to the actual contents of the 'Majority Report.'*

V. *That the non-adoption of a term, whether from the German list or my own, constitutes a declaration against it.*—It signifies merely a suspension of judgment and a postponement of action.

VI. *That differences of usage or recommendation between American and foreign anatomists or organizations should be removed in all cases by the abandonment of our position.*

VII. *That the efforts of this Association for the simplification of nomenclature should be paralyzed by the disapprobation of foreign anatomists whose unfamiliarity with what is done in America is to be explained only by an indifference thereto.*—Among numerous instances of this indifference I select one with which my own connection is so remote as to eliminate the element of personal irritation. At the meeting of this Association in December, 1895, there was presented an elaborate 'Report on the Collection and Preservation of Anatomical Material.' It was printed in our *Proceedings* (15–38) and in *SCIENCE*, III., January 17, 1896; was mentioned in several journals and listed in the 'Literatur' in the *Anatomischer Anzeiger*. Yet in September, 1898, practically an entire number of that periodical, twenty-five pages, was occupied by an article on that subject purporting to tabulate and discuss the methods employed in all parts of the world. The whole United States is credited with an article by Mall (*Anzeiger*, 1896, 769–775) and (in a footnote) a 'Note' by Keiller in the *Texas Medical Journal*, 1891–2, VII., p. 425.

VIII. *That terms consisting of a single word each constitute even the majority of the names preferred by me or adopted by this Association a year ago.*—Whatever their abstract preferences, the members of the Committee realize the impossibility of framing such a nomenclature. Two years ago ('Neural Terms,' § 153 *et seq.*) I showed by statistics the baselessness of the misapprehension and characterized it as a 'terminologic phantasm erected by the Germans between themselves and the American Committees.'

More recently, however, the same notion has reappeared in several reviews of a textbook of nervous diseases, commonly with approval, expressed or implied, of the supposed condition. The impression was probably gained from the fact that the author of the book, like myself, prefers single-word

names for as many as possible of the parts most frequently mentioned. Nevertheless, the misapprehension on this point ought to be corrected. The facts are :

First, out of about 540 neural terms in the B. N. A. at least 40, about one-fourteenth, are mononyms.

Secondly, in the 'Majority Report', in Tables C and D, are enumerated 274 terms differing more or less from those adopted by the Gesellschaft; the mononyms number only 103.

IX. *That eminence as an anatomist necessarily implies either the capacity or the disposition to deal wisely with questions of nomenclature.*—Upon this point I quote from 'Concluding Remarks' in 'Neural Terms,' p. 329:

Caution in Publishing New Terms.—It is true that words needlessly introduced into anatomy have no such embarrassing permanency as is conventionally assigned to synonyms in systematic zoölogy. Nevertheless, for a time at least, they encumber current publications and dictionaries. Hence, however necessary and legitimate they may seem to the framer, neither a new term, nor an old one in a new sense, should be actually published without prolonged consideration, and consultation with at least four individuals representing as many categories of possible critics: (a) an investigator of the same general subject; (b) an experienced teacher; (c) an earnest student; (d) a philologic expert whose admiration for the past has not blinded him to the needs of the present and the future.

Method of Introduction of New Terms.—As urgently recommended by the A. A. A. S. Committee on Biological Nomenclature, whenever a technical word is used for the first time the author should give in a special note: (a) the Latin form; (b) the etymology; (c) the proper adopted form or paronym for his own language, with the adjective, etc., when applicable; (d) as concise and precise a definition as possible.

X. *That among the terms included in the 'Majority Report' any considerable number have been specifically condemned by the Anatomische Gesellschaft or its authorized representatives.*

XI. *That the grounds of such objections as have been offered are really sound and sufficient.*

XII. *That the condemnation of a term by an anatomic authority disproves either its intrinsic fitness or its promise of vitality.*—On this point there need be adduced only the cases of *radius* and *ulna*, which Robert Hunter denounced as 'ridiculous.'

XIII. *That the anatomy of the future is to be based upon the structure and erect attitude of the human body.*—The anatomists of the future will be zoötomists first and anthropotomists afterward.

XIV. *That every anatomic term should be an absolute idionym, i. e., perfectly explicit in itself.*—Since this requirement is implied in the objections to *aula*, etc., by Kölliker, and to *medipedunculus* by His,* there may be properly adduced from the B. N. A. the following terms, whose explicitness is conditioned upon either the context or the actual addition of the words here set in brackets: *clivus* [*occipitalis*], and [*sphenoidalis*]; *processus coronoideus* [*ulnæ*] and [*mandibulæ*]; *processus styloideus* [*radii*], [*ulnæ*], and [*ossis temporalis*]. Unless, indeed, it be granted that a certain degree of explicitness is afforded by the context, every one of the thousands of names of the parts of the human body should be increased by the phrase *corporis humani*.

XV. *That the occasional employment, by a member of an Association, or even by a member of its Committee on Nomenclature, of terms other than those adopted by them is, in itself, evidence of deliberate intention.*—For example, after using *conarium* for fifteen years in place of 'pineal body,' etc., now that the arguments of Spitzka and H. F. Osborn have converted me to *epiphysis*, *conarium* occasionally gets itself spoken. Indeed, it is easy for me to understand that an unintended but familiar word may be written, re-written, and even overlooked in the proof. The frequency of such lapses could be shown, if necessary, by letters from numer-

*As stated and briefly discussed in 'Neural Terms,' pp. 282-289.

ous correspondents in reply to the query, free from all critical or proselytic tenor, as to whether a given term was used intentionally or by inadvertence.

XVI. *That there is 'imminent danger of the formation of a peculiar anatomic vocabulary in America such as seriously to impede scientific intercourse with other countries.'*—The unsubstantiality of the grounds of this misapprehension may be recognized in the impartial discussion by the brothers Herrick a year ago.* They conclude that there is no reason for serious alarm on this score.

XVII. *That the fundamental principles and characteristic features of the simplified nomenclature can be attributed to any individual in such degree as to warrant calling it by his name.*—In correcting this misapprehension no false modesty shall lead me to belittle what I have done. On the contrary, to the 'Summary of my terminologic progress,' already published in 'Neural Terms,' etc. (pp. 227–237), there shall be added here two items overlooked when that was printed :

1. That the defects of encephalic terminology had been recognized by me as early as 1873 may be seen from the following paragraph in a popular lecture on 'The brain and the present scientific aspects of phrenology,' delivered January 21st, before the 'American Institute,' and reported in the *New York Tribune* of January 22d and in the '*Tribune Extra*,' No. 3 :

"As if these natural hindrances were not enough, the old anatomists fenced in the parts of the brain with the most fanciful and prodigious titles. *Cerebrum* is well enough ; the *cerebellum*, being only one-eighth as large, has a longer name, while *medulla oblongata*, *hippocampus minor*, *tubercula quadrigemina*, *processus e cerebello ad testes*, and *iter e tertio ad ventriculum quartum* represent such insignificant parts of the brain as to suggest a suspicion that the nomenclature was established upon no other principle than that of in inverse ratio between the size of an organ and the length of its title. At any rate, these fearful names

*"Inquiries regarding tendencies current in neurological literature ;' *Jour. Comp. Neurology*, VII., 162–168, December, 1897.

are stumbling-blocks to the student and an almost perfect hindrance to popular knowledge of the brain ; no doubt this pleases the ghosts of the old anatomical fathers, and is equally agreeable to many of the present day, both in and out of the profession, with whom Latin is a synonym for learning, and ponderosity of words for profundity of wisdom."

2. My actual efforts toward the simplification of the nomenclature of the brain commenced in 1880, in the preparation of a paper read before the American Association for the Advancement of Science on the 28th of August. The paper was never written out in full, and apparently no abstract was furnished for publication in the *Proceedings*. Somewhat inadequate and erroneous reports were printed in the *Boston Daily Advertiser* of August 30th, and in the *New York Medical Record* of September 18th. But here is a duplicate of the abstract furnished in advance to the Secretary of the Association, and I venture to read it as a contribution to the history of the subject now before us :

"PARTIAL REVISION OF THE NOMENCLATURE OF THE BRAIN.

"A. *Introductory* : The progress of anatomy is impeded by the defects of nomenclature. These defects have been admitted by several anatomists, and a few have endeavored to remedy them. As stated by Pye-Smith, 'the nomenclature of the brain stands more in need of revision than that of any other part.'

"B. *Nature of the Defects* : (1) General. In common with that of the rest of the body, the nomenclature of the brain lacks precision as to the position and direction of parts. (2) In particular the number of synonyms is very large. Most writers employ some names which are vernacular or merely descriptive. Most technical names are compound ; many of the single ones are inconveniently long, and some of them are indecent.

"C. *Special Obstacles to a Reform* : (1) The difficulty of ascertaining the priority of terms. (2) The tendency of each nation to adopt purely vernacular terms which have been proposed or incidentally employed by eminent anatomists of that nation.

"D. *Principles Forming the Basis of this Revision* : (1) Technical terms are the tools of thought, and the best workman uses the best tools. (2) Terms of classical origin are to be preferred. (3) Priority of

employment is to be regarded, but should not overbear all other considerations. (4) Of two terms equally acceptable in other respects, to select the shorter. (5) Preference for names of general application over those which have an exclusive application to man or the other primates. (6) To convert some compound terms into simple ones, either by dropping unessential words or by the substitution of prefixes for adjectives. (7) For terms of position, to discard all which refer to the horizon or to the natural attitude of man, and to adopt those which refer to the longitudinal axis of the vertebrate body. (8) For terms of relative position and direction, to employ those used for position with the termination *ad*.

"E. *The Paper Will Indicate*: (1) The terms proposed and their abbreviations. (2) The principal synonyms. (3) The originators of the terms and synonyms and the dates of their first employment, so far as ascertained. (4) The terms which should be wholly discarded. (5) The new terms for new parts, the new terms for parts already known, the new forms of old terms. (6) The subordination of parts to wholes by differences in the kinds of type."

There were present Harrison Allen, Simon H. Gage, Charles S. Minot and probably other members of this Association; the survivors will recall that on cloth sheets were written in parallel columns certain names in common use, together with those which were proposed to replace them. Amongst these were *pons* for 'pons Varolii'; *insula* for 'insula Reillii'; *thalamus* for 'thalamus opticus'; *callosum* and *striatum* for 'corpus callosum' and 'corpus striatum'; *præcommisura* for 'commissura anterior'; *myelon* for 'medulla spinalis,' and *cornu dorsale*, for 'cornu posterius.' This paper constituted the proton (the *primordium*, or 'Anlage,' if you prefer) of my own subsequent contributions, and likewise, so far as I knew at the time, of the simplified nomenclature in America.

Proud as I am of these early propositions, and glad as I should be if they and their subsequent elaborations had been at once unprecedented and sufficient, nevertheless truth, justice and the peculiar conditions now confronting us alike impel me upon this occasion to insist even more distinctly

than hitherto upon the extent to which the ideas and even the specific terms had been anticipated by four other anatomists in this country and in England.

Already in the spring of 1880, although quite unknown to me, there had been published a paper by E. C. Spitzka, 'The Central Tubular Gray' (*Journal of Nervous and Mental Disease*, April, 1880), containing (p. 75, note) the following pregnant paragraph:

"It would add much to the clearness of our terminology, in my opinion, if the adjectives anterior and posterior were to be discarded. Physiologists and anatomists are so often forced to deal with the nerve axes of lower animals, in whom what is with man the anterior root becomes inferior, and what is in the former posterior becomes superior, that they have either been confused themselves or have written confusedly, or finally have, to avoid all misunderstanding, utilized the terms applicable to man alone also for quadrupeds. The nervous axis, however, occupies one definite position, which should determine the topographical designations. What in man is the anterior, and in quadrupeds the inferior, root or cornu is always *ventral*; while what in the former is posterior, and the latter superior, is always *dorsal*. The present treatise is not the proper place for renovating nomenclature, but I have thought it well to call attention to the matter in passing, and in anticipation of a work on comparative neural morphology which I have in preparation."

The concluding words are italicized by me in order that there may be the more fully appreciated the generosity, indeed self-abnegation, exhibited in Dr. Spitzka's commentary* upon my longer paper† of the following year:

"It is with mingled pleasure and profit that I have read the very suggestive paper on cerebral nomenclature contributed to your last issues by Professor Wilder. Some of the suggestions which he has made have been latent in my own mind for years,

* Letter on nomenclature, *SCIENCE*, April 9, 1881. Also in *Jour. Nerv. and Mental Dis.*, July, 1881, 661-662.

† A partial revision of anatomical nomenclature, with especial reference to that of the brain, *SCIENCE*, II., 1881, pp. 122-126, 133-138, March. Also *Jour. Nerv. and Mental. Dis.*, July, 1881, 652-661.

but I have lacked the courage [time ?] to bring them before my colleagues. Now that he has broken ground, those who prefer a rational nomenclature to one which, like the present reigning one, is based upon erroneous principles, or rather on no principles at all, will be rejoiced at the precedent thus set for innovations. * * * He who has himself been compelled to labor under the curse of the old system, the *beneath, below, under, in front of, inside, external, between, etc.*, will look upon the simple *ventral, dorsal, lateral, mesal, cephalic, proximal, caudal, distal, etc.* as so many boons. I have no hesitation in saying that the labor of the anatomical student will be diminished fully one-half when this nomenclature shall have been definitely adopted. * * * In proceeding to comment on some of the terms proposed by Professor Wilder, I wish it to be distinctly understood that I do so merely tentatively and to promote discussion; in so doing I feel certain that I am carrying out that writer's wishes. It is but just to state that the majority of the terms cannot be discussed; they are perfection and simplicity combined."

Had Dr. Spitzka completed his proposed work he would doubtless have called attention to our three British predecessors, John Barclay, Richard Owen and P. H. Pye-Smith.

The first, as long ago as 1803, in 'A New Anatomical Nomenclature,' proposed the unambiguous descriptive terms, *dorsal, lateral, proximal*, with their adverbial forms, *dorsad, laterad and proximad*, and thus laid the foundation for an intrinsic toponymy.

In 1846 Owen published ('Report on the Vertebrate Skeleton,' p. 171) what I have elsewhere ('Neural Terms,' § 51) called the 'immortal paragraph,' wherein the various phrases for the spinal portion of the central nervous system were replaced by the single word, *myelon*. Twenty years later he uttered ('Anatomy of Vertebrates,' I., 294) a declaration which some of us are disposed to regard as an inspired prophecy:

"Whoever will carry out the application of neat substantive names to the homologous parts of the encephalon will perform a good work in true anatomy." In the third volume of the same work (1868, p. 136) is a list of the cerebral fissures designated, in most cases, by adjectives of a single word each, *e. g., subfrontal*.

The paper of Pye-Smith (fortunately still spared to us) was entitled 'Suggestions on Some Points of Anatomical Nomenclature,' and appeared in 1877 (*Journal of Anatomy and Physiology*, XII., 154-175, October, 1877). After enunciating certain sound general principles, he declared that 'the nomenclature of the brain stands more in need of revision than that of any other part,' and made several specific suggestions some of which have been adopted by the three American Associations and the Anatomische Gesellschaft:

"The term optic thalamus is a misleading and cumbersome abbreviation of the proper name *thalamus nervorum optico-rum*, and the name *thalamus*, without qualification, is at once distinctive, convenient, and free from a false suggestion as to the function of the part. * * * Of all the synonyms of the *Hippocampus minor* (*Ergot of Morand, eminentia unciformis, colliculus, unguis, calcar avis*) the last is the most distinctive, and brings it at once into relation with the calcarine fissure. The *Hippocampus major* may then drop the adjective, as well as its synonym of *cornu ammonis*. The pineal and pituitary bodies are more conveniently called *conarium* and *hypophysis*. * * * The word *Pons* (Varolii) might well be restricted to the great transverse commissure of the cerebellum. * * * *Insula* is a far more distinctive name than any proposed to replace it." Pye-Smith also prefers *vagus* to 'pneumogastricus.' (p. 162).

Those who have done me the honor to read any one of my longer papers on this subject will recall my repeated acknowledgments of indebtedness to these three English anatomists. Not to mention earlier publications, in 1889, in the article 'Anatomical Terminology' ('Reference Handbook of the Medical Sciences,' VIII., 520-522), Professor Gage and I collected from all sources accessible to us 'Aphorisms respecting Nomenclature;' the most prolific sources were the three just named. At the third meeting of this Association, in Boston, December, 1890, I read a paper the title of which was 'Owen's Nomenclature of the Brain,' and which included this paragraph:

"In none of the above-designated publications or in those of other anatomists does it now seem to the

writer that there has been adequate recognition of the terminological precepts and examples that occur in the works of Professor Richard Owen, and the writer takes this opportunity to express his constantly increasing sense of obligation in this regard; had space permitted he would gladly have increased the number and length of the selections from Professor Owen's writings which are embraced among the 'Aphorisms respecting Nomenclature' on pp. 520-522 of the article 'Anatomical Terminology.'"

In this connection may appropriately be mentioned two later but highly significant British contributions toward a simplified and international system of nomenclature.

1. The Latin names for the encephalic segments.—In the seventh edition of Quain's 'Anatomy', edited by William Sharpey, Allen Thompson and John Cleland, in Vol. II., dated 1867, the five 'fundamental parts' (corresponding to what I have called 'definitive segments') are named *prosencephalon*, *diencephalon*, *mesencephalon*, *epencephalon*, and *metencephalon*; and in a foot-note these terms are declared to be "adopted as applicable to the principal secondary divisions of the primordial medullary tube, and as corresponding to the commonly received names of the German embryologists, viz., *Vorderhirn*, *Zwischenhirn*, *Mittelhirn*, *Hinterhirn*, and *Nachhirn*; or their less-used English translations, viz., *forebrain*, *interbrain*, *midbrain*, *hindbrain*, and *afterbrain*."

Notwithstanding several public requests for information as to the source of the Latin segmental names, the historic facts recorded in the above extract were ascertained by me only within the past week; I prefer to believe that they were unknown to the Nomenclatur Commission and to the Anatomische Gesellschaft at the time of the selection and adoption of the Latin names for the encephalic segments as given in the B. N. A. Even, then, however, since the same Latin terms were repeated in the subsequent editions of Quain (1877-1882), I am compelled to regard the transference of *metencephalon* from the ultimate segment to

the penultimate, and its replacement by *myelencephalon*, as constituting a violation of scientific ethics that merits the severest reprobation.*

2. Mononymic designations of the encephalic cavities.—In August, 1882, wholly unaware of my prior suggestion to the same effect (SCIENCE, March, 1881), the late T. Jeffery Parker, professor in Otago University, New Zealand, proposed compounds of the Greek *κοιλία*, with the prepositions, etc., already employed in the segmental names; e. g., *mesocœle*, *prosocœle*, etc. Our mutual gratification and encouragement at the approximate coincidence led to a cordial correspondence that continued until his death. Besides the publications enumerated in the Bibliography of 'Neural Terms,' Parker used celian compounds in two papers on the *Apteryx* (1890 and 1892) and in the 'Text-book of Zoology' by himself and Professor Haswell (1897).

XVIII. *That, even in its earliest and crudest form, the 'system' sometimes called by my name could fairly be characterized as 'generally repulsive' and as having 'not the slightest chance of general adoption.'*†—On this point it is sufficient to introduce the following letter ‡ from Oliver Wendell Holmes, whose point of view was at once that of the literary critic and the experienced teacher of anatomy in a medical school:

"BOSTON, May 3, 1881.

"DEAR DR. WILDER: I have read carefully your paper on Nomenclature. I entirely approve of it as an attempt, an attempt which I hope will be partially successful, for no such sweeping change is, I think, ever adopted as a whole. But I am struck with the

* The intrinsic merits of various segmental names have been discussed by me in 'Neural Terms,' etc., 326-328, and in the *Proceedings of this Association* for the ninth session, May, 1897, 28-29.

† These phrases occur in the 'Minority Report.'

‡ As a whole or in part this notable document has been printed previously in SCIENCE, May 28, 1881; in 'The Brain of the Cat,' *Amer. Philos. Soc., Proceedings*, XIX., p. 530, 1881; 'Anatomical Technology,' 1882, p. 11; 'Neural Terms,' p. 237.

reasonableness of the system of changes which you propose, and the fitness of many of the special terms you have suggested.

"The last thing an old teacher wants is, as you know full well, a new set of terms for a familiar set of objects. It is hard instructing ancient canine individuals in new devices. It is hard teaching old professors new tricks. So my approbation of your attempt is a *sic vos non vobis* case so far as I am concerned.

"What you have to do is to keep agitating the subject; to go on training your students to the new terms, some of which you or others will doubtless see reasons for changing; to improve as far as possible, fill up blanks, perhaps get up a small manual in which the new terms shall be practically applied, and have faith that sooner or later the best part of your innovations will find their way into scientific use. The plan is an excellent one; it is a new garment which will fit Science well, if that capricious and fantastic and old-fashioned dressing lady can only be induced to try it on.

"Always very truly yours,

"OLIVER WENDELL HOLMES."

XIX. *That, at the present stage of the subject, it is possible for any individual, however impartial and well informed, to wholly avert the possibility of misapprehension or even injustice, in attempting to indicate the attitude of living anatomists toward the simplified nomenclature.*—My impartiality may perhaps be challenged, but I am at least familiar with current literature in this respect; moreover, since 1880 I have preserved all letters in which the matter is considered. Probably no one agrees with me absolutely and in every respect. On the other hand, even some frankly avowed opponents now assent to what they would have regarded as quite heretical a few years ago.*

XX. *That whatever misapprehension may exist in this country or abroad as to the degree in which the terms or principles advocated by me are indorsed by others can be justly ascribed to either unfounded declarations or intimations on my part, or to the omission of definite efforts to avert or*

*In the verbal presentation of a paper at this meeting Professor Dwight designated the costiferous vertebræ as *thoracic* rather than *dorsal*, with a consistency both gratifying and encouraging.

remove such misapprehension.—The enumeration of the conditions that led to the preparation of 'Neural Terms' included (p. 217) the following sentence: "I particularly desire to free the committees, their individual members, and the associations which they represent, from responsibilities not yet assumed by them." More or less explicit and emphatic affirmations to the same effect occur on pp. 273, 295, 299 and 301.*

XXI. *That 'most scholars are repelled by' my 'fantastic terms and defects of literary form.'*—This assertion occurs in the 'review' (No. 6), and presumably refers to the 'system' in its present or recent state. The position taken is apparently impregnable, since for every one who has declared his adhesion there might be named a score who have said nothing about it. Seriously, however, it is not easy to discuss such a proposition without adducing evidence that might fairly be challenged by one side or the other. At any rate, in the present connection I shall omit my more or less intimate friends and correspondents, living and dead; Harrison Allen, W. R. Birdsall, Oliver Wendell Holmes, Joseph Leidy, and E. C. Seguin; William Browning, Joseph Collins, Elliott Coues, H. H. Donaldson, F. H. Gerrish,

*At the meeting of the American Medical Association in Philadelphia, June, 1897, the Section on Neurology and Medical Jurisprudence adopted the following resolution, recommended by the Committee on the Address of the Chairman, W. J. Herdman:

"Resolved, That the Section of Neurology and Medical Jurisprudence endorse the neural terms adopted by the American Neurological Association, the Association of American Anatomists, and the American Association for the Advancement of Science, and so far as practical recommend their use in the work of the section.

C. K. MILLS,
C. H. HUGHES,
HAROLD N. MOYER."

Since the action above recorded was taken in June, 1897, it does not, of course, apply to the subsequent adoptions by this Association at the tenth and eleventh sessions; Dec., 1897, and Dec., 1898.

George M. Gould, the brothers Herrick, G. S. Huntington, C. K. Mills, W. J. Herdman, H. F. Osborn, C. E. Riggs, D. K. Shute, Sorenson, Spitzka, O. S. Strong, W. G. Tight, C. H. Turner, A. F. Witmer and R. Ramsay Wright; also past or present pupils or colleagues, T. E. Clark, P. A. Fish, S. H. Gage, Mrs. Gage, G. S. Hopkins, O. D. Humphrey, A. T. Kerr, B. F. Kingsbury, W. C. Krauss, T. B. Stowell and B. B. Stroud. I have now, I think, eliminated all whose more or less complete adoption or approval of my 'system' might be ascribed in some degree to personal considerations.*

There has lately been afforded me, however, the desired opportunity of collating the impressions of a somewhat homogeneous group of scholars, quite unlikely to have been influenced by a disinclination to antagonize my views. Through the courtesy of

*Curiously enough, in the single instance of the apparent operation of personal influence, the individual was of German descent and we had met but once. Prior to our meeting in December, 1895, I prepared a typewritten list of the neural terms that had been adopted earlier in the year by the Anatomische Gesellschaft, and in parallel columns added those preferred by me. Copies of this list were sent to members of the Association as a basis for the anticipated discussion. In January the late Dr. Carl Heitzmann, in acknowledging his copy, accounted at the same time for his absence from the meeting: "My intention was to urge the acceptance of the nomenclature adopted by the German Anatomical Society, deficient as it is, simply to obtain uniformity. * * * Personally I cannot vote against you; hence I rather abstain from coming to the meetings till this matter will be settled."

My response was as follows: "Your letter affects me deeply, and were my efforts toward the improvement of anatomical nomenclature for my own sake or for the present at all it would go far to deter me from further persistence. But I never lose sight of the fact that we of to-day, and even the honored workers of the past, are few and insignificant as compared with our successors, and I do not mean to be reproached by them for failing to do what I can. Do not refrain from writing, publishing or voting against me according to your convictions. It will come out right in the end."

the author of a recent American text-book on 'The Nervous System and its Diseases,' in which the simplified nomenclature is fully and expressly employed, I have been enabled to read all the reviews of it that have thus far appeared. For the sake of homogeneity I have excluded two non-medical journals, the *Revue Neurologique*, which says nothing on the subject of nomenclature, and the *Journal of Comparative Neurology*, which, upon the whole, is favorable. This leaves thirty reviews of a book intended for students; reviews written by practitioners, some of them well-known experts and also teachers of neurology. As such, upon general principles, any modification of the current terminology must be more or less unwelcome to them.

Upon the basis of their attitude toward the simplified nomenclature the reviews fall naturally into four groups, viz.: A, those that ignore the subject (8, about 27 per cent.); B, those that merely mention it (6, 20 per cent.); C, those that condemn the introduction of the simplified terms more or less decidedly (6, 20 per cent.); D, those that commend it (10, 33 per cent.). Without going so far as to reverse the Scriptural saying and claim that 'he who is not against us is with us,' we may infer that the fourteen reviewers in groups A and B were at least not 'repelled' by the simplified terms; on the contrary, many of them call attention to the clearness and accuracy of the anatomic and embryologic sections of the book where, of course, the terms are most conspicuous.

In category C I have included one that might, without real unfairness, have been left in category B; in the *Colorado Medical Journal*, after characterizing the anatomic portion of the work as 'especially excellent,' Dr. Eskridge simply expresses the 'fear that the new nomenclature will not meet with general favor.'

The six antagonistic reviews are con-

tained in the *Pacific Record of Medicine and Surgery*, the *London Lancet*, the *Colorado Medical Journal*, the *American Journal of Insanity*, the *New York Medical Record* and the *Journal of Nervous and Mental Disease*. I quote from the last two as highly influential and representative. The *Record* says:

"There is to be found an ample, clear and thoroughly scientific treatment of the anatomy of the nervous system. * * * We are not in thorough sympathy with nomenclatural cataclysms, and feel that frequently the old and familiar is clothed in new terms for the sake of lending an air of novelty and apparent gloss of 'science.' Still in the biological sciences nomenclature forms one of the most important landmarks of progress, especially when by it new and wider conceptions are gained. We believe, however, that in the adoption of the Wilder terminology the author has departed from a healthy historical conservatism, but this is, perhaps, an academic matter after all."

The foregoing contains so many qualifications as to leave its purport somewhat in doubt; indeed, one may imagine its writer, as he finished it, exclaiming, with the Congressman, 'Where am I at?'

The remarks of Dr. B. Sachs in the *Journal of Nervous and Mental Disease* are more explicit, and I should be glad to reproduce them in full; on the present occasion extracts must suffice:

"It is to be feared that the student will not be grateful for the introduction of the new cerebral terminology of Wilder and Gage. While recognizing the full merits of the new nomenclature and appreciating the benefits conferred upon the comparative anatomist and the comparative embryologist, the truth is, the student of neurology does not need it. * * * It has been suggested that children should begin the study of brain anatomy. The plan is a good one with reference to this nomenclature; the only way to acquire it is to acquire it early in life, when the cortical cells are ready for the reception of any and all auditory impressions. We have no doubt that in the course of time some of these names will be adopted by general consent; but it will be well along in the next century before the system, as a whole, will come into use."

Upon the whole I find myself less depressed by the objections of Dr. Sachs than

encouraged by his almost startling forecast. He is young enough for me to venture the prediction that 'well along in the next century' he will be surrounded by colleagues and pupils who, according to my plan,* commenced the practical study of the brain in the primary school, and who, by the aid of the simplified nomenclature, learned twice as rapidly as ourselves.

Among the ten favorable reviews the most elaborate is in the *Journal of the American Medical Association* (August 20, 1898). That in the *New York Medical Journal* (May 21, 1898) concludes thus:

"We are very glad that the author has had the courage to introduce these terms, believing, as we do, in their correctness and in the need of their becoming familiar."

I refrain from reading the other reviews† in Group D, mainly because the expressions therein complimentary to myself are embarrassingly numerous and emphatic. In view of this evidence those who contend that 'most scholars are repelled by my fantastic terms and defects of literary form' would seem called upon to either withdraw that claim as a misapprehension or to modify materially the commonly accepted definition of medical and scientific scholarship.

XXII. That 'barbarisms' constitute an objectionable feature of my 'system.'—Upon the supposition that by *barbarisms* are here meant hybrid words, this point was somewhat fully discussed in 'Neural Terms,' p. 290. Since the criticism was offered by the

* The desirability and feasibility of the acquisition of some real and accurate knowledge of the brain by precollegiate scholars. *Amer. Soc. Naturalists Records*, p. 31, 1896; *SCIENCE*, December 17, 1897.

† The *St. Louis Medical and Surgical Journal* (April, 1898); (Portland, Oregon) *Medical Sentinel* (April, 1898); (Detroit) *Medical Age* (April 11, 1898); *Canada Lancet* (May, 1898); *Richmond (Va.) Journal of Practice* (May, 1898); *Buffalo Medical Journal* (June, 1898); *University (of Pa.) Medical Magazine* (September, 1898); *North Carolina Medical Journal* (September, 1898).

chairman of the Nomenclatur Commission, Professor Kölliker, it might naturally be inferred that the list of terms adopted by that body is free from hybrid words. Yet not only does the B. N. A. contain several such, but certain of them are less euphonious than most of those for which I am responsible. Comparison is invited between the Græco-Latin combinations in the two following groups, the first from my list, the second from the B. N. A.; in each case the Greek element is printed in italics: *Metatela*, *diatela*, *paratela*, *metaplexus*, *diaplexus*, *paraplexus*, *ectocinerea*, *entocinerea*, *hemice-rebrum*, *hemiseptum*; *epidurale*, *mesovaricus*, *parumbilicales*, *parolfactorius*, *suprachorioidea*,* *pterygopalatinus*, *pterygomandibularis*, *phrenicocostalis*, *sphenopalatinum*, *sphenoöccipitalis*, *occipitomastoidea*, *squamosomastoidea*.

XXIII. *That progress toward the right solution of the questions involved is really facilitated by general denunciations of a given system or its advocates.*—The attitude of some may be likened to that of the child in the lines:

"I do not love thee, Dr. Fell,
The reason why I cannot tell,
But this alone I know full well,
I do not love thee, Dr. Fell."

History will record whether such conservatives shall rank with heroic defenders of law and order, or be rated among the Canutes of science, their utterances, in respect to nomenclature, remembered mainly as 'things one would rather have left unsaid.'

History will likewise record whether some others, including, of course, the framers of the 'Majority Report,' shall be metaphorically 'hanged, drawn and quartered'

* In Table IV., p. 290 of 'Neural Terms' (likewise in Biological Lectures, p. 158) *suprachorioidea* was printed without the first (and, as it seems to me, superfluous) *i*; also, most regrettably, there was included in the list *perichorioideale*, a wholly Greek combination.

as rebels, or, notwithstanding errors of judgment, credited with leaving the pathway of future students of anatomy smoother than they found it themselves.

XXIV. *That the English-speaking anatomists who have been laboring long for the simplification of nomenclature are called upon to submit indefinitely to animadversions based upon inertia, lack of information, misapprehension, or undue deference to the adverse pronunciamentos of scientific potentates abroad.*—Speaking for myself alone, the spirit in which I prefer to meet hostile criticism is fairly exemplified in my reply (*N. Y. Medical Record*, Oct. 2, 1886, 389-390) to an article in a leading medical journal containing an egregious and inexcusable misstatement that might readily have led uninformed readers to question the soundness of all my proposals. That article, however, although upon the editorial page, was evidently prepared in haste. But such extenuation will scarcely be urged in the case of the publication numbered 6 in the list in the note on p. 566. This is a review of an article (no. 5), and to avoid confusion I shall speak of the 'article' and its 'author,' of the 'review' and the 'reviewer.'

The review contains this passage:

"Some of the peculiarities of the Wilder system are then briefly discussed [in the article], attention being called to its disregard of the ordinary principles of language formation as exemplified by Ist. The mutilation of words as by using * * * *hippocamp* * for *hippocampus major*."

* In the original this is 'chippocamp'. The reviewer promptly assured me that the mistake was the printer's and that it would be 'corrected wherever possible'. I assume that the copies of SCIENCE sent by him to others were emended like that received by me. But, so far as I am aware, no public correction has been made. Under some circumstances this might be regarded as superfluous. But it must be borne in mind that unjustifiable verbification constituted the very substance of the indictment; hence the situation was as if John Doe accused Richard Roe publicly of

It may be doubted whether scientific literature can furnish a single sentence of equal length containing so many erroneous statements and implications. For clear discrimination the several points shall be put in the form of questions:

1. In the article purporting to be the source of the criticism quoted is there mentioned either the word *hippocamp* or any other word representing a comparable etymologic category?

In that article, beyond the reproduction of reports including the words *hippocampus* and *hippocampus major*, the single reference is as follows (translated):

"Wilder holds that there is no longer ground for retaining *avis* with *calcar*, a term which is to be used in place of *hippocampus minor*. If this be granted, then naturally the *major* of *hippocampus major* can be dropped. The writer approves of these changes."

2. Is the reviewer himself on record as preferring the apparently alternative term, 'hippocampus major,' to *hippocampus*?

The reviewer, as a member of our Committee on Anatomical Nomenclature, signed the first report, in 1889, which recommended the replacement of 'hippocampus major' by *hippocampus*. Since this change was also adopted in 1895 by the Anatomische Gesellschaft, I have not supposed that its abandonment was embraced within the proposition of the 'Minority Report' that the Association should 'reconsider its acts from the beginning.'

3. Has the word *hippocamp* ever been used or proposed by me in any other status than passing counterfeit money; as if the nature of one of Roe's occupations at the time rendered it particularly desirable that his character be unimpeached; as if part of the evidence against him were a spurious coin that had been dropped into his pocket accidentally by an employee of Doe himself; and, finally, as if Doe held adequate reparation to be made by confining the admission of the mistake to the officers of the law and his personal friends. Nevertheless, in order that the issues before us may be kept free of all points upon which there may be room for diversity of opinion, this mischance shall be hereafter ignored.

that of a national, English form (Anglo-paronym) of the international, Latin *hippocampus*?

The negative answer to this may be found in various publications during the last fifteen years. Among the fuller and more accessible presentations are these passages from 'Neural Terms' (pp. 231-232, 226):

"Each anatomist prefers to employ terms belonging to his own language; at the same time he prefers that others should employ Latin terms with which he is already familiar. *Sea horse*, *Cheval marin* and *Seepferd* are synonyms (in the broader sense, §42), but to either an Englishman, a Frenchman or a German, two of them are foreign words and unacceptable. *Hippocampus* is distinctly a Latin word, and the frequent occurrence of such imparts a pedantic character to either discourse or written page. *Hippocamp*, *hippocampe*, *hippocampo*, and *Hippokamp* are as distinctly national forms of the common international antecedent (not to invoke the original Greek *ἵπποκαμπος*), and are readily recognized by all, while yet conforming to the 'genius' of each language."

4. Does the reduction of *hippocampus* to *hippocamp* represent a group of cases so numerous in even my complete list of neural terms as to constitute a prominent feature of what is called my 'system'?

The list embraces about 440 terms; besides *hippocamp* there are just two cases in which I have been apparently the first to Anglicize Latin words by dropping the last syllable, the inflected ending; viz., *myelon*, *myel*, and *encephalon*, *encephal* (and its compounds).

5. If, finally, every one of the 440 Latin terms happened to consist of a single word ending in either *a*, *ma*, *us*, *on*, *is*, *um*, or *ium*, and if I had proposed that English-speaking anatomists should customarily omit those syllables, would that render the 'system' open to the charge of 'mutilation of words' or 'disregard of the ordinary principles of language formation'?

For a negative answer to this question we need not look beyond the limits of the review itself, the language of which is pre-

sumed to be sanctioned by the authoritative journal in which it is printed. All of the following English words occurring therein differ from their Latin (or Latinized) antecedents in the omission of the inflected syllable: Form, system, barbarism, act, public, defect, subject, natural, official, distinct, historic, artificial, peculiar, human. If to these be added a few equally familiar, viz., arm, aqueduct, oviduct, tract, exit and stomach, it will be conceded, I trust, that *hippocamp* is in irreproachable etymologic company.

Indeed, we may now adopt the affirmative attitude and declare that among all the principles of language formation no one is better established or more generally recognized by scholars than that certain Latin words may be Anglicized by the elision of the ultima.*

I gladly forbear further direct and specific comment upon the case of *hippocamp*, but its more general aspects may be indicated in the three following queries:

1. Does scientific comity (which is comparable in some respects with what is called 'senatorial courtesy') render it incumbent upon the author of an article to refrain from disavowing responsibility for unjust statements wrongly attributed to him by a reviewer?

2. Should editorial regard for the privileges of writers tolerate the publication of unsound linguistic allegations that bring discredit upon American scholarship?

3. Is it probable that further assaults upon the simplified nomenclature from the etymologic standpoint will redound to the advancement of knowledge or the credit of the assailants?

*This is simply one of several well-known ways of converting Latin words into English; others are enumerated in 'Anatomical Terminology' (Reference Handbook of the Medical Sciences, VIII., 527); for all such processes of word-adoption the term *paronymy* (from *παρωνυμία*, the formation of one word from another by inflection or slight change) was proposed by me in 1885.

XXV. *That, saving perhaps in the case of such German anatomists as read English with difficulty, the amount and nature of the information contained in the article numbered 5 in the note to p. 566 over and above what was already accessible to them in my own publications compensates for the misapprehensions likely to be occasioned by it.*

XXVI. *That efforts toward the establishment of an international nomenclature should be abandoned because of the arrogance of individuals or committees of particular nations.*—As an evidence of the existence of a real discouragement in this respect I quote from a recent private letter from a well-known naturalist:

"I am not a believer in international coöperation, since it generally means that one nation has it all its own way."

If we read between the lines and recall the epigram, 'Man and woman are one, but the man is the one,' it may be imagined that my pessimistic correspondent adumbrates the doctrine, 'As to Anatomic Nomenclature all nations are one—but Germany is the one.'

XXVII. *That, in estimating the probability of the soundness and eventual adoption of my terminologic proposals, there should be taken into account only or even mainly the terms that are new or otherwise less acceptable, rather than those respecting which my adoption antedates that of the Anatomische Gesellschaft.*—Let us grant, for the sake of argument, that my *aula*, *porta*, *cimbria*, *mesocælia*, *metatela*, *metaporus* and the like are doomed to 'innocuous desuetude'; shall the folly of their vain introduction outweigh the evidences of sane prevision exhibited between the years of 1880 and 1895 in the deliberate and independent choice, among abundant and perplexing synonyms, of, for example, the following: *Pallium*, *gyrus*, *fissura*, *insula*, *centralis* (rather than *Rolandi*), *collateralis*, *calcarina*, *paracentralis*, *præcuneus*, *cuneus*, *hippocampus*, *fornix*, *thalamus*, *hypophysis*, *di-*

encephalon, tegmentum, vermis, nodulus, flocculus, pons, lemniscus, obex, oliva, clava and vagus?

XXVIII. *That the originality of the B. N. A. (the Nomenclature adopted at Basel in 1895 by the Anatomische Gesellschaft) is to be measured by the manifestation therein of non-acquaintance with what had been proposed or accomplished by English-speaking anatomists.—To be more explicit, I repeat here a paragraph from 'Neural Terms' (§ 276) referring to the action of American Committees between 1889 and 1892 :*

"Although the specific terms included in these recommendations are few, they exemplify all the commendable features of the German report. Indeed, I fail to discover in the latter any general statement, principle, rule, or suggestion that had not already been set forth with at least equal accuracy, clearness and force in the writings of British and American anatomists prior to 1895."

XXIX. *That indifference or even hostility to terminologic improvement, especially upon the part of the older generation, should be thought either surprising or discouraging.—The first point was conceded by me in 1881 :*

"The trained anatomist shrinks from an unfamiliar word as from an unworn boot ; the trials of his own pupillage are but vaguely remembered ; each day there seems more to be done, and less time in which to do it ; nor is it to be expected that he will be attracted spontaneously toward the consideration that his own personal convenience and preferences, and even those of all his distinguished contemporaries, should be held of little moment as compared with the advantages which reform may insure to the vastly more numerous anatomical workers of the future."

The second point is covered by the review in the *Philadelphia Polyclinic*, which I have included in Category B (xxi.) :

"While some of our friends across the Atlantic may possibly consider this too radical a departure from long-established customs, the author of the book believes that time and familiarity with the terms will justify the course he has followed."

XXX. *That action upon the general subject should be indefinitely postponed.—This is the hour and you are the men. Let not the*

'fools rush in, because the 'angels' of this Association 'fear to tread.'

XXXI. *That it is incumbent upon this Association to decide immediately upon the names for all parts of the body or even for all parts of the central nervous system.—In a matter of such moment precipitation is to be avoided.*

XXXII. *That there are contemplated by the majority of the Committee, or by any member thereof, with regard to the names of the other parts of the body, changes comparable in number and extent with what have been proposed for the central nervous system.**

XXXIII. *That members of the Association should content themselves with simply awaiting the operation of the law of the survival of the fittest.—Upon this point I quote again the brothers Herrick. The conclusion of their article, 'Inquiries,' etc., reads:*

"The unification of our nomenclature is to be accomplished, if at all, by a process of survival of the fittest among competing terms at the hands of our working anatomists rather than by legislative enactment. Yet the international discussions now in progress may do much to further this end."

I trust they will pardon me for attaching the greater significance to the final concession. The subject before us is preëminently one that concerns mind rather than matter; and its determination should be reached not so much through the operation of numbers or force as by the exercise of the highest human qualities, deliberation, self-restraint, and consideration for others.

XXXIV. *That members of this Association should defer to what is called 'general usage.'—Of all so-called leaders, the most incapable, blundering, and dangerous is 'General Usage'. He stands for thoughtless imitation, the residuum of the ape in humanity; for senseless and indecorous fashions, the caprices of the demi-monde; for superstition and hysteria, the attributes of the mob; for*

* See, for example, the report submitted and adopted at this session ; SCIENCE, March 3, 1899, p. 321 ; also, *Phil. Med. Journal*, Feb. 25th, and *Jour. Comp. Neurology*, ix., No. 1.

slang, the language of the street hoodlum and of his deliberate imitator, the college 'sport'; and, finally, in science, for the larger part of the current nomenclature of the brain. As scholarly anatomists it is at once our prerogative and our duty to scrutinize and reflect, and to deal with the language of our science in the same spirit and with the same discrimination that we maintain in regard to the parts of the body and the generalizations concerning them.

It may be that a crisis has been reached; that this is the turning-point. If defeat awaits us, let there be no doubt as to my attitude. Let me be regarded as the chief offender, and let the group of terms advocated by me be derided as 'Wilder's Scientific Volapük.' But if, rather, despite errors and reverses, we are in the end to overcome inertia and prejudice, then I trust that the labors and sacrifices of so many English-speaking anatomists for the simplification of anatomic nomenclature may be recognized in the designation: 'The Anglo-American System.'

Indeed, whatever be the fate of any particular set of terms, of this I am assured: that system will ultimately prevail which is approved and used by anatomists of the English-speaking race—the composite, all-absorbing, expanding, dominating race of the future.

In no spirit of national self-glorification, much less with any personal animosity, but rather as a friendly injunction to prepare for the inevitable, I shall not object if portions of this address (for all of which, be it understood, I alone am responsible) are interpreted as a declaration of intellectual independence; as a claim for the recognition of what is done in England and America upon the basis of its intrinsic value; and as a protest against an indifference which in some instances has seemed to lack even that semblance of consideration which at least was commonly maintained during

the manifestation, a generation ago, of what an American scholar characterized as a 'certain condescension observable among foreigners.'

Let me conclude with a passage in more cheerful vein:

"When the first little wave of the rising tide comes creeping up the shore the sun derides her, and the dry sand drinks her, and her frightened sisters pull her backward, and yet again she escapes; and still her expostulating sisters cling to her skirts, and the rabble of waves behind cry out against her boldness, and all the depths of the ocean seem rising to drag her down. And now the second rank of waves, who would have died of shame at being the first, have unwillingly passed the earlier mark of the little wave that led them; and now you may float in your ship, for lo! the tide is full. So it is with all systems of reform; though the pioneers be derided, the great needs of humanity behind push on to triumphant acquisition of the new order of things."

BURT G. WILDER.

CORNELL UNIVERSITY.

*THE BREEDING OF ANIMALS AT WOODS
HOLE DURING THE MONTH OF SEP-
TEMBER, 1898.*

WITH the month of September the record of the breeding habits of the summer fauna practically closes. Very few of the species continue to breed into October. The auftrieb, though less rich in species, is at the beginning of the month similar to that of late August, but after the first week the number of forms steadily decreases. It consists for the most part of crustacean larvæ, the bulk of the material being brachyuran and eupagurid.

The temperature of the water was constant at 72° F. for the first week. It then fell steadily until the 25th, when it reached 65° F., and remained at this point until the